

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

PCT/DE2003/004036



Applicant's or agent's file reference 2003P00329WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/004036	International filing date (day/month/year) 08 December 2003 (08.12.2003)	Priority date (day/month/year) 14 January 2003 (14.01.2003)	
International Patent Classification (IPC) or national classification and IPC H01L27/28, H01L 51/20, H01L51/00			
Applicant POLYIC GMBH & CO. KG			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 11 August 2004 (11.08.2004)	Date of completion of this report 10 May 2005 (10.05.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/004036

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 1-8 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 2-10 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____ 1 _____, filed with the letter of 15 December 2004 (15.12.2004)
- ☒ the drawings:
 pages _____ 1/4-4/4 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
 These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/DE 03/04036

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	4, 7, 8	YES
	Claims	1-3, 5, 6, 9, 10	NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following documents:

- D1: US-B1-6362 509 (HART CORNELIS MARIA), 26 March 2002 (2002-03-26)
- D2: WO 01/17029 A (E INK CORP), 8 March 2001 (2001-03-08)
- D3: ASSADI A et al.: 'FIELD-EFFECT MOBILITY OF POLY(3-HEXYLTHIOPHENE)', APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, Vol. 53, No. 3, 18 July 1988 (1988-07-18); pages 195-197, XP000644969, ISSN 0003-6951
- D4: KOEZUKA H et al.: 'MACROMOLECULAR ELECTRONIC DEVICE', MOLECULAR CRYSTALS AND LIQUID CRYSTALS SCIENCE AND TECHNOLOGY. SECTION A. MOLECULAR CRYSTALS AND LIQUID CRYSTALS, GORDON AND BREACH PUBLISHERS, CH, CH, Vol. 255, 17 November 1993 (1993-11-17), pages 221-230, XP002055362, ISSN 1058-725
- D5: WO 01/47044 A (PLASTIC LOGIC LTD; SIRRINGHAUS HENNING (GB); KAWASE TAKEO (GB); FR), 28 June 2001 (2001-06-28)
- D6: EP-A-1 102335 (LUCENT TECHNOLOGIES INC), 23 May 2001 (2001-05-23)
- D7: WO 99/66540 A (OPTICOM AS; BONSE MATHIAS (US); HAGEN KLAUK (US); JACKSON THOMAS ()), 23 December 1999 (1999-12-23)
- D8: US-B1-6 326288 (BORNEFELD RALF), 4 December 2001 (2001-12-04)

2. The amendments submitted with the letter of 13 December 2004 introduce subject matter which, contrary to the requirement of PCT Article 34(2)(b), goes beyond the disclosure in the international application as filed. The amendments in question are as follows:

"a U-shaped and/or serpentine current channel"

There is no basis in the original application for the amendments submitted with the letter of 13 December 2004. These amendments have been ignored in the examination of the subject matter of claims 1 to 10 with regard to novelty and inventive step.

3. The application fails to meet the requirements of PCT Article 6 because the subject matter of claim 1 is not clear. The phrase "can be formed" in claim 1 is vague and unclear, and leaves the reader uncertain about the meaning of the technical feature referred to. The claimed subject matter is therefore not clearly defined (PCT Article 6).
4. The application fails to meet the requirement of PCT Article 33(2) because the subject matter of claims 1-3, 5, 6, 9 and 10 is not novel.
- 4.1 The subject matter of claims 1-3, 5, 6, 9 and 10 lacks novelty in the light of the disclosure of document D1 (see figures 2, 4 and 6, and the accompanying text). In D1 too, the electrode layer covers the current channel completely and also covers at least a part of the first electrodes measuring between 0 and 20 μm .
- 4.2 The subject matter of claims 1 and 2 lacks novelty in the light of the disclosure of document D2 (see figures 4 and 5, and the accompanying text), document D3 (see figure 1 and the accompanying text) and document D4 (see figure 1 and the accompanying text).

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE 03/04036

5. Dependent claims 4, 7, and 8 do not contain any additional features that would constitute subject matter involving an inventive step when combined with the features of any of the back-referenced claims, since structuring the semiconductor layer is a standard way to reduce crosstalk or leakage current (see, for example, document D7, figure 4 and the accompanying text; also document D8, figure 3 and the accompanying text).